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YOUNG & THOMPSON
745 SOUTH 23RD STREET
2ND FLOOR
ARLINGTON, VA 22202

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BOKHARI, SYED M	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/517,399	KALLIOLA ET AL.	
	Examiner	Art Unit	
	Syed Bokhari	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 July 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *43-70* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *43-70* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *05/10/2005 and 12/10/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 43 and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Waggener Jr. et al. (USP 5,553,061) in view of Zhu et al. (USP 5,768,527).

Waggener Jr. et al. discloses a communication system for a packet processor having service priority and loss priority with the following features: regarding claim 43, determining in the communication protocol stack a quality of service level of the packet as a function of information transmitted with the packet (Fig. 1, architecture of a service priority packet processor 100, see "determine the service priority of received packet 160" recited in column 4 lines 61-67, column 5 lines 7-12 and column 5 lines 61-65), the function being composed of a rule/rules (308, 408, 506) (Fig. 10 and Fig. 4, methods for removing packet from buffer, see "high priority first served traffic step 1016 and weighted round robin readout step 416" recited in column 10 lines 19-68), which are configurable from outside of the communication protocol stack and in accordance with the determined quality of service level (Fig. 1, architecture of a service priority packet processor 100, see "it allows users to specify service priority according to their needs" recited in column 2 lines 5-13), performing in the communication protocol stack one of the following quality of service operations: transmitting the packet to another application via the communication network (Fig. 1, architecture of a service priority packet processor 100, see "read out of service priority buffer 104" recited in column 6 lines 5-17), removing of the packet or placing the packet (307, 407, 503) with the quality of service level in a queue (306, 406, 507) (Fig. 4, packet processing according to their service priority, see "removes packets from virtual FIFO 304" recited in column 6 lines

63-67 and column 7 lines 1-3) and wherein at least handling of the queue is placed in the communication protocol stack (Fig. 1 and Fig. 9, service priority packet processing, see "methods for determining a specific queue 304" recited in column 5 lines 13-19 and column 10 lines 15-20) and regarding claim 57, a rule/rules (308, 408, 506, 903) which are configurable from outside of the communication protocol stack (Fig. 1, architecture of a service priority packet processor 100, see "it allows users to specify service priority according to their needs" recited in column 2 lines 5-13), determine in the communication protocol stack (902) a quality of service level of the packet as a function of information transmitted with the packet (Fig. 1, architecture of a service priority packet processor 100, see "determine the service priority of received packet 160" recited in column 4 lines 61-67, column 5 lines 7-12 and column 5 lines 61-65), the function being composed of the rule/rules (308, 408, 506, 903), and in accordance with the determined quality of service level (Fig. 10 and Fig. 4, methods for removing packet from buffer, see "high priority first served traffic step 1016 and weighted round robin readout step 416" recited in column 10 lines 19-68), perform in the communication protocol stack (902) one of the following quality of service operations transmitting the packet to another application via the communication network (Fig. 1, architecture of a service priority packet processor 100, see "read out of service priority buffer 104" recited in column 6 lines 5-17), removing of the packet, or placing the packet (307, 407, 503) with the quality of service level in a queue (306, 406, 507) (Fig. 4, packet processing according to their service priority, see "removes packets from virtual FIFO 304" recited in column 6 lines 63-67 and column 7 lines 1-3) and wherein at least handling of the

queue is placed in the communication protocol stack (Fig. 1 and Fig. 9, service priority packet processing, see "methods for determining a specific queue 304" recited in column 5 lines 13-19 and column 10 lines 15-20).

Waggener Jr. et al. does not disclose the following features: regarding claim 43, a method for implementing quality of service in data transmissions of a communication network, the method comprising the steps of, receiving in a node of the communication network on one layer (301, 401, 501) of a communication protocol stack a packet sent by an application and the communication protocol stack implementing a certain and the communication protocol set used in the communication network; regarding claim 57, an apparatus for implementing quality of service in data transmissions of a communication network, wherein the apparatus (901) comprises a communication protocol stack (902) implementing a certain communication protocol set used in the communication network and the apparatus being adapted to receive in a node of the communication network on one layer (301, 401, 501) of the communication protocol stack (902) a packet sent by an application,

Zhu et al. discloses a communication system for real time multimedia streaming with the following features: regarding claim 43, a method for implementing quality of service in data transmissions of a communication network, the method comprising the steps of (Fig. 2, real time multimedia communication system, see "multimedia client device that implements a quality of service" recited in column 3 lines 53-60), receiving in a node of the communication network on one layer (301, 401, 501) of a communication protocol stack a packet sent by an application (Fig. 2, real time multimedia

communication system, see "packet buffer 202 receives incoming packets" recited in column 4 lines 49-55) and the communication protocol stack implementing a certain communication protocol set used in the communication network (Fig. 2, real time multimedia communication system, see "reordering out of sequence received packets, performing packet loss detection" recited in column 4 lines 51-60); regarding claim 57, an apparatus for implementing quality of service in data transmissions of a communication network, wherein the apparatus (901) comprises (Fig. 2, real time multimedia communication system, see "multimedia client device that implements a quality of service" recited in column 3 lines 53-60), a communication protocol stack (902) implementing a certain communication protocol set used in the communication network (Fig. 2, real time multimedia communication system, see "reordering out of sequence received packets, performing packet loss detection" recited in column 4 lines 51-60) and the apparatus being adapted to receive in a node of the communication network on one layer (301, 401, 501) of the communication protocol stack (902) a packet sent by an application (Fig. 2, real time multimedia communication system, see "packet buffer 202 receives incoming packets" recited in column 4 lines 49-55).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the system of Waggener Jr. et al. by using the features, as taught by Zhu et al., in order to provide a method comprising the steps of, receiving in a node a packet sent by an application and the communication protocol stack implementing a certain protocol set and an apparatus comprises a communication protocol stack implementing a certain communication protocol set. The motivation of using this

functionality is to enhance the method for better quality of service in a cost effective manner.

5. Claims 45, 47, 52-53, 59, 61and 67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Waggener Jr. et al. (USP 5,553,061) in view of Zhu et al. (USP 5,768,527) as applied to claims 1 and 57 above, and further in view of Huh et al. (US 2002/0018446 A1).

Waggener Jr. et al. and Zhu et al. describe the claim limitations as discussed in paragraph 4 above. Waggener Jr. et al. also discloses the following features: regarding claim 45, removing the packet from the queue on grounds of the quality of service level of the packet (Fig. 4, packet processing according to their service priority, see "removes packets from virtual FIFO 304" recited in column 6 lines 63-67 and column 7 lines 1-3); regarding claim 47, wherein the quality of service level is composed of at least two attributes of which one determines the position of the packet in the queue (Fig. 1, architecture of a service priority packet processor 100, see "management of incoming packets in buffer is based on service priorities" recited in column 5 lines 1-9); regarding claim 59, the apparatus being further adapted to remove the packet from the queue on grounds of the quality of service level of the packet (Fig. 4, packet processing according to their service priority, see "removes packets from virtual FIFO 304" recited in column 6 lines 63-67 and column 7 lines 1-3) and regarding claim 61, wherein the quality of service level is composed of at least two attributes, of which one determines the

position of the packet in the queue (Fig. 1, architecture of a service priority packet processor 100, see "management of incoming packets in buffer is based on service priorities" recited in column 5 lines 1-9).

Waggener Jr. et al. and Zhu et al. do not disclose the following features: regarding claim 45, when either the number of packet retransmission requests or the number of missing packet acknowledgements reaches a predefined threshold; regarding claim 47, when either the number of packet retransmission requests or the number of missing packet acknowledgements reaches a predetermined threshold; regarding claim 52, wherein the method is implemented in one layer of the communication protocol stack; regarding claim 53, wherein the method is implemented in at least two layers of the communication protocol stack; regarding claim 59, when either the number of packet retransmission requests or the number of missing packet acknowledgements reaches a predetermined threshold value; regarding claim 61, when either the number of packet retransmission requests or the number of missing packet acknowledgements reaches a predetermined threshold and regarding claim 67, wherein the apparatus is a terminal.

Huh et al. discloses a mobile communication system for controlling packet transmission with the following features: regarding claim 45, when either the number of packet retransmission requests or the number of missing packet acknowledgements reaches a predefined threshold (Fig. 5, packet transmission control operation, see, "receiving side compares the predetermined ACK threshold with received C/I" recited in paragraph 0052 lines 1-9); regarding claim 47, when either the number of packet

retransmission requests or the number of missing packet acknowledgements reaches a predetermined threshold (Fig. 5, packet transmission control operation, see, "receiving side compares the predetermined ACK threshold with received C/I" recited in paragraph 0052 lines 1-9); regarding claim 52, wherein the method is implemented in one layer of the communication protocol stack (Fig. 2, conventional HRD system, see determining whether coding should be performed or not" recited in paragraph 0016 lines 1-4; regarding claim 53, wherein the method is implemented in at least two layers of the communication protocol stack (Fig. 5, transmission control operation, see, "AT transmits an ACK signal to AN and packet to upper layer in step 370" recited in paragraph 0039 lines 1-6); regarding claim 59, when either the number of packet retransmission requests or the number of missing packet acknowledgements reaches a predetermined threshold value (Fig. 5, packet transmission control operation, see, "receiving side compares the predetermined ACK threshold with received C/I" recited in paragraph 0052 lines 1-9); regarding claim 61, when either the number of packet retransmission requests or the number of missing packet acknowledgements reaches a predetermined threshold (Fig. 5, packet transmission control operation, see, "receiving side compares the predetermined ACK threshold with received C/I" recited in paragraph 0052 lines 1-9) and regarding claim 67, wherein the apparatus is a terminal (Fig. 1, high data rate HRD forward and reverse link, see "access terminal AT compares the received C/I" recited in paragraph 0019 lines 1-7).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the system of Waggener Jr. et al. with Zhu et al. by using the

features, as taught by Huh et al., in order to provide the method of predefined threshold for packet retransmission and acknowledgement requests from receiver. The motivation of using this functionality is to enhance the method for better quality of service in a cost effective manner.

6. Claims 48-51, 54-56, 62-66 and 68-70 are rejected under 35 U.S.C. 103(a) as being unpatentable over Waggener Jr. et al. (USP 5,553,061) in view of Zhu et al. (USP 5,768,527) as applied to claims 43 and 57 above, and further in view of Wang et al. (US 2003/0035409 A1).

Waggener Jr. et al. and Zhu et al. describe the claim limitations as discussed in paragraph 4 above. Waggener Jr. et al. and Zhu et al. do not disclose the following features: regarding claim 48, wherein the information transmitted with a packet contains at least one of the following pieces of information: an identifier of the application, user data related to the application, a model of a terminal through which the packet was sent, an Internet peripheral address, a calling number, an operator prefix, a called party, a site from which the packet was sent, or a time when the packet was sent; regarding claim 49, wherein the rule/rules are configurable by at least one of the following parties: a user of the application, a receiver of the packet, a service provider of the communication network, or an administrator administrating the use of the method; regarding claim 50, the method comprising the further step of receiving at the node a packet sent from another node of the communication network and the packet being

intended for configuring the rule/rules; regarding claim 51, the method comprising the further step of sending a packet from the node to another node of the communication network and the packet being intended for configuring the rule/rules of the other node; regarding claim 54, wherein the communication between the layers is based on an additional header which is transmitted with the packet from one layer to another the additional header including the quality of service level of the packet; regarding claim 55, wherein the method performs the communication between the layers by the steps of receiving the packet on a layer of the communication protocol stack, sending a quality of service level request from the layer to an upper layer of the communication protocol stack, the quality of service level request including information about the packet received and returning from the upper level of the communication protocol stack the quality of service level of the packet as a response to the quality of service level request; regarding claim 56, wherein the communication protocol stack is a WAP stack; regarding claim 62, wherein the information transmitted with a packet contains at least one of the following pieces of information an identifier of the application, user data related to the application, a model of a terminal through which the packet was sent, an Internet peripheral address, a calling number, an operator prefix, a called party, a site from which the packet was sent, or a time when the packet was sent; regarding claim 63, wherein the rule/rules are configurable by at least one of the following parties: a user of the application, a receiver of the packet, a service provider of the communication network, or an administrator of the apparatus and the apparatus is further adapted to provide at least one user interface for the parties; regarding

claim 64, the apparatus being further adapted to receive at the node a packet sent by another node of the communication network and configure the rule/rules in accordance with the content of the packet; regarding claim 65, the apparatus being further adapted to send a packet from the node to another node of the communication network and the packet being intended for configuring the rule/rules of the other node; regarding claim 66, wherein the modified communication protocol stack is a WAP stack; regarding claim 68, wherein the apparatus is a server; regarding claim 69, wherein the apparatus includes at least one of the following devices/software: a WAP gateway, a proxy server, or a HTTP server and regarding claim 70, wherein the apparatus is further adapted to communicate with at least one the following external systems a billing system, a subscriber database, or a positioning system.

Wang et al. discloses a communication system for providing service selection, redirection and managing of subscriber access to multiple WAP (Wireless Application Protocol) gateway with the following features: regarding claim 48, wherein the information transmitted with a packet contains at least one of the following pieces of information: an identifier of the application, user data related to the application, a model of a terminal through which the packet was sent, an Internet peripheral address, a calling number, an operator prefix, a called party, a site from which the packet was sent, or a time when the packet was sent (Fig. 8, flow chart of a worker thread 304, see "creates an IP packet with WAP gateway IP address as destination" recited in paragraph 0149 lines 1-6); regarding claim 49, wherein the rule/rules are configurable by at least one of the following parties a user of the application, a receiver of the packet,

a service provider of the communication network, or an administrator administrating the use of the method (Fig. 1, existing WAP structure, see "service providers have developed various pre-paid packages" recited in paragraph 0046 lines 1-5 in background description of prior art); regarding claim 50, the method comprising the further step of receiving at the node a packet sent from another node of the communication network (Fig. 4, packet processing according to their service priority, see "WAP allows information to be sent and received by wireless devices" recited in paragraph 0019 lines 1-6) and the packet being intended for configuring the rule/rules (Fig. 9, flow of data feeder thread 304, see "system sends out the packet and updates the newly assigned port" recited in paragraph 0149 lines 6-15); regarding claim 51, the method comprising the further step of sending a packet from the node to another node of the communication network (Fig. 4, packet processing according to their service priority, see "WAP allows information to be sent and received by wireless devices" recited in paragraph 0019 lines 1-6) and the packet being intended for configuring the rule/rules of the other node (Fig. 9, flow of data feeder thread 304, see "system sends out the packet and updates the newly assigned port" recited in paragraph 0149 lines 6-15); regarding claim 54, wherein the communication between the layers is based on an additional header which is transmitted with the packet from one layer to another the additional header including the quality of service level of the packet (Fig. 3, WAP controller, see "worker thread 304 perform the IP quality of service" recited in paragraph 0137 lines 1-5, paragraph 0138 lines 1-2, paragraph 0139 lines 1-4, paragraph 0140 lines 1-2, paragraph 0141 line 1 and paragraph 0142 lines 1-2); regarding claim 55,

wherein the method performs the communication between the layers by the steps of receiving the packet on a layer of the communication protocol stack (Fig. 6, data flow of WAP controller, see "an incoming WAP request 601 received from a WAP device" recited in paragraph 0124 lines 1-6), sending a quality of service level request from the layer to an upper layer of the communication protocol stack, the quality of service level request including information about the packet received (Fig. 3, WAP controller, see "worker thread 304 identifies the request as a service selection request" recited in paragraph 0124 lines 6-18) and returning from the upper level of the communication protocol stack the quality of service level of the packet as a response to the quality of service level request (Fig. 5, WAP controller 234 routing table data structure, see "WAP controller 234 marks WAP traffic to control the QoS" recited in paragraph 0164 lines 8-13); regarding claim 56, wherein the communication protocol stack is a WAP stack (Fig. 4, protocol stack of WAP controller, see " request progress from mobile device to a WAP proxy server" recited in paragraph 0152 lines 1-5); regarding claim 62, wherein the information transmitted with a packet contains at least one of the following pieces of information an identifier of the application, user data related to the application, a model of a terminal through which the packet was sent, an Internet peripheral address, a calling number, an operator prefix, a called party, a site from which the packet was sent, or a time when the packet was sent (Fig. 5, WAP controller 234 routing table data structure, see "a WAP device IP address 505" recited in paragraph 0155 lines 1-6, paragraph 0156 line 1, paragraph 0157 lines 1-2, paragraph 0158 lines 1-3, paragraph 0159 line 1, paragraph 0160 line 1, paragraph 0161 line 1, paragraph 0161 line 1,

paragraph 0162 line 1 and paragraph 0163 line 1); regarding claim 63, wherein the rule/rules are configurable by at least one of the following parties: a user of the application, a receiver of the packet, a service provider of the communication network, or an administrator of the apparatus (Fig. 1, existing WAP structure, see "service providers have developed various pre-paid packages" recited in paragraph 0046 lines 1-5 in background description of prior art) and the apparatus is further adapted to provide at least one user interface for the parties (Fig. 2, Mobile service gateway 201, see "coordinated policy server interface to data gateway" recited in paragraph 0102 lines 1-5, paragraph 0103 lines 1-3, paragraph 0104 line 1, paragraph 0105 lines 1, paragraph 0106 lines 1-3 and paragraph 0107 lines 1-2); regarding claim 64, the apparatus being further adapted to receive at the node a packet sent by another node of the communication network (Fig. 4, packet processing according to their service priority, see "WAP allows information to be sent and received by wireless devices" recited in paragraph 0019 lines 1-6) and configure the rule/rules in accordance with the content of the packet (Fig. 9, flow of data feeder thread 304, see "system sends out the packet and updates the newly assigned port" recited in paragraph 0149 lines 6-15); regarding claim 65, the apparatus being further adapted to send a packet from the node to another node of the communication network (Fig. 4, packet processing according to their service priority, see "WAP allows information to be sent and received by wireless devices" recited in paragraph 0019 lines 1-6) and the packet being intended for configuring the rule/rules of the other node (Fig. 9, flow of data feeder thread 304, see "system sends out the packet and updates the newly assigned port" recited in paragraph 0149 lines 6-

15); regarding claim 66, wherein the modified communication protocol stack is a WAP stack (Fig. 4, protocol stack of WAP controller, see " request progress from mobile device to a WAP proxy server" recited in paragraph 0152 lines 1-5); regarding claim 68, wherein the apparatus is a server (Fig. 2, Mobile service gateway 201, see "the service agent 220 consists of servers" recited in paragraph 0095 lines 1-4); regarding claim 69, wherein the apparatus includes at least one of the following devices/software: a WAP gateway, a proxy server, or a HTTP server (Fig. 3, WAP controller 234 set forth as part of service router 230, see routing table represents mapping of subscriber to WAP gateway" recited in paragraph 0050 lines 1-6) and regarding claim 70, wherein the apparatus is further adapted to communicate with at least one the following external systems a billing system, a subscriber database, or a positioning system (Fig. 2, usage accounting routine 215, see "access to network resource by billing system" recited in paragraph 0095 lines 1-4).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the system of Waggener Jr. et al. with Zhu et al. by using the features, as taught by Wang et al., in order to provide the information transmitted with a packet, rule/rules configuration by parties and sending packet intended for configuring the rule/rules of the other node. The motivation of using the the functionalities is to enhance the method for better quality of service in a cost effective manner.

7. Claims 44, 46, 58 and 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Waggener Jr. et al. (USP 5,553,061) in view of Zhu et al. (USP

5,768,527) as applied to claims 43 and 57 above, and further in view of Barham et al. (USP 7,284,047).

Waggener Jr. et al. and Zhu et al. describe the claim limitations as discussed in paragraph 4 above. Waggener Jr. et al. also discloses the following features: regarding claim 44, the method comprising the further step of: replacing the packet in the queue in another position (Fig. 10, high priority first served method, see "one or more of packets 160 are read from queue 2 and output to cell 1038" recited in column 10 lines 47-53) and wherein the other position in the queue is determined by the quality of service level of the packet; regarding (Fig. 1, functional architecture of a service priority packet processor, see "determine the order in which to read packet 160 out of service priority buffer 104" recited in column 5 lines 37-41 and lines 45-55) and regarding claim 58, the apparatus being further adapted to replace the packet in the queue in another position (Fig. 10, high priority first served method, see "one or more of packets 160 are read from queue 2 and output to cell 1038" recited in column 10 lines 47-53) and wherein the other position is determined by the quality of service level of the packet (Fig. 1, functional architecture of a service priority packet processor, see "determine the order in which to read packet 160 out of service priority buffer 104" recited in column 5 lines 37-41 and lines 45-55).

Zhu et al. also discloses the following features: regarding claim 44, when either the number of packet retransmission requests or the number of missing packet acknowledgements reaches a predetermined threshold value (Fig. 12, multimedia file

stored in a remote server, see "retransmission requests, bandwidth budget and QoS" recited in column 12 lines 42-65) and regarding claim 58, when either the number of packet retransmission requests or the number of missing packet acknowledgements reaches a predetermined threshold value (Fig. 12, multimedia file stored in a remote server, see "retransmission requests, bandwidth budget and QoS" recited in column 12 lines 42-65).

Waggener Jr. et al. and Zhu et al. do not disclose the following features: regarding claim 46, the method comprising the further steps of calculating usable transmission capacity by taking into account maximum transmission capacity of the node of the communication network, the number of bytes currently used to receive data at the node and on ground of the quality of service level of the packet and the usable transmission capacity and performing a certain operation directed to the packet and regarding claim 60, the apparatus being further adapted to calculate usable transmission capacity by taking into account maximum transmission capacity of the apparatus and the number of bytes currently used to receive data and, on ground of the quality of service level of the packet and the usable transmission capacity perform a certain operation directed to the packet.

Barham et al. discloses a communication system for controlling network demand via congestion pricing with the following features: regarding claim 46, the method comprising the further steps of calculating usable transmission capacity by taking into account maximum transmission capacity of the node of the communication network (Fig. 4, network computing devices, see "load calculation mechanism 400" recited in

column 13 lines 18-21) the number of bytes currently used to receive data at the node and on ground of the quality of service level of the packet and the usable transmission capacity (Fig. 4, network computing devices, see "total up the number of bytes being transmitted on the network 300 in given time" recited in column 13 lines 21-28) and performing a certain operation directed to the packet (Fig. 2, transmission of a packet through the network, see "aggregated demand of resources on its route is accumulated in the LOAD field of the packet" recited in column 9 lines 46-60) and regarding claim 60, the apparatus being further adapted to calculate usable transmission capacity by taking into account maximum transmission capacity of the apparatus (Fig. 4, network computing devices, see "load calculation mechanism 400" recited in column 13 lines 18-21) and the number of bytes currently used to receive data and, on ground of the quality of service level of the packet and the usable transmission capacity (Fig. 4, network computing devices, see "total up the number of bytes being transmitted on the network 300 in given time" recited in column 13 lines 21-28) perform a certain operation directed to the packet (Fig. 2, transmission of a packet through the network, see "aggregated demand of resources on its route is accumulated in the LOAD field of the packet" recited in column 9 lines 46-60).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the system of Waggener Jr. et al. with Zhu et al. by using the features, as taught by Barham et al., in order to provide the method of calculating the transmission capacity and performing certain operation directed to the packet. The

motivation of using the the functionalities is to enhance the method for better quality of service and to maximize the transmission in a cost effective manner.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 2002/0089961 A1 (Ishikawa et al.) and US 2003/0063615 A1 (Luoma et al.).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Syed Bokhari whose telephone number is (571) 270-3115. The examiner can normally be reached on Monday through Friday 8:00-17:00 Hrs..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kwang B. Yao can be reached on (571) 272-3182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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KWANG BIN YAO
SUPERVISORY PATENT EXAMINER